

Remarks

This application has been carefully reviewed in light of the Office Action mailed December 14, 2007. Claims 1, 3 and 5-15 are pending in the application. Claims 1-3 and 5-15 have been rejected. By this amendment, Applicants have canceled claims 1-3 and 5-15 and added new claims 16-28. No new matter has been added by these amendments. Applicants do not admit that these amendments were necessary as the result of any cited art. Applicants respectfully request reconsideration of the above application in view of the following remarks.

Claims 1, 3, 7-8, 10, 12 And 15 Stand Rejected Under 35 U.S.C. § 103(a) As Being Unpatentable Over Pinas et al. U.S. Patent No. 6,507,506, In View Of Maeda U.S. Patent No. 6,340,848 And In Further View of Akerson U.S. Patent No. 6,344,985 And In Further View of Flick U.S. Patent No. 6,756,885

Claims 1, 3, 7-8, 10, 12 and 15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Pinas et al.*, in view of *Maeda*, in further view of *Akerson* and in further view of *Flick*. Applicants respectfully request reconsideration of this rejection because the proposed combination of *Pinas et al.*, *Maeda*, *Akerson*, and *Flick* fails to demonstrate that pending claims 16-28 are known in the art.

Claim 16 recites, *inter alia*, "wherein the first load is configured to operate at a first increased power level rating that is greater than the amount of power that is capable of being provided by the first DC/DC converter and the second load is configured to operate at a second increased power level rating that is greater than the amount of power that is capable of being provided by the second DC/DC converter [.]"

While *Pinas et al.* may disclose a bi-directional converter (62) and two network sectors (R14, R42) that are capable of operating at two different voltage levels, *Pinas et al.* fails to disclose that any such loads operably coupled to the two network sectors (R14, R42) require power level ratings that are greater than the amount of power that is capable of being produced by the bi-directional converter (62) (see Figures 2, 5-6). Further, *Pinas et al.* provides for a

single DC/DC converter (62) as acknowledged by the Examiner (see Office Action mailed December 14, 2007, p. 3, ¶ 2).

Pinas et al. also fails to disclose the presently claimed "controller . . . configured to selectively control the first and the second DC/DC converters to cooperate with each other to generate enough power to satisfy at least one of the first increased power level rating of the first load and the second increased power level rating of the second load in response to detecting that the amount of power that is to be consumed by the at least one of the first and the second loads is approaching the at least one of the first and the second increased power level ratings."

The Examiner agrees that "Pinas fails to explicitly teach detecting the current required by the loads" (see Office Action mailed December 14, 2007, pg. 4, § 4).

Maeda fails to cure the deficiencies of *Pinas et al.* For example, *Maeda* fails to disclose providing first and second loads that operate at increased power loads than the amount that is capable of being provided by first and second DC/DC converters as required by claim 16. In contrast to claim 16, *Maeda* provides DC/DC converters 31c, 33c, and 35c that are adapted to provide sufficient electrical power to loads as exhibited with the following passage:

Moreover, the capacities of the DC/DC converters 31c, 33c, and 35c of the first to third distribution boxes 31, 33, and, 35 for converting 42 V into 12 V each are designed to supply an electrical power just sufficient to only the normal-voltage loads arranged around each distribution box. (See, col. 5, l. 53-57).

In view of the cited passage above, it cannot follow that *Maeda* discloses the presently claimed first load that is configured to operate at a first increased power level rating that is greater than the amount of power that is capable of being provided by the first DC/DC converter and the second load that is configured to operate at a second increased power level rating that is greater than the amount of power that is capable of being provided by the second DC/DC converter.

Maeda also fails to disclose the use of a controller as presently claimed. For example, *Maeda* fails to disclose a controller that is configured to control the DC/DC converters 31c, 33c, and 35c to cooperate with each other to generate enough power to satisfy increased power levels associated with the normal or large capacity loads (see Figure 2).

Akerson fails to cure the deficiencies of *Pinas et al.* and *Maeda*. *Akerson* fails to disclose providing first and second loads that operate at increased power loads than the amount that is capable of being provided by first and second DC/DC converters as required by claim 16. For example, while *Akerson* may disclose DC/DC converters 102a and 104a and an AC load 420, *Akerson* fails to disclose that the AC load 420 require power level ratings that are greater than the amount of power that is capable of being produced by the DC/DC converters (102a and 104a) (see Figures 7).

Further, *Akerson* also fails to disclose the use of a controller as required by claim 16. For example, *Akerson* fails to disclose a controller that is configured to control the DC/DC converters 102a and 104a to cooperate with each to generate enough power to satisfy increased power levels associated with the load 420 (see Figure 7).

Flick fails to cure the deficiencies of *Pinas et al.*, *Maeda*, and *Akerson*. For example, *Flick* fails to disclose the presence of DC/DC converters, or a controller as required by claim 16.

Applicants respectfully assert that *Nonaka* (Japanese Patent No: JP08-111932) (as referenced in the Office Action in connection with claims 2, 9 and 11, see p. 4, ¶ 4) fails to disclose claim 16, which provides, *inter alia*, "a controller . . . configured to . . . selectively control the first and the second DC/DC converters to cooperate with each other to generate enough power to satisfy at least one of the first increased power level rating of the first load and the second increased power level rating of the second load in response to detecting that the amount of power that is to be consumed by the at least one of the first and the second loads is approaching the at least one of the first and the second increased power level ratings."

At best, *Nonaka* provides for a microcomputer 21 that supplies an output S21 to a control terminal of a DC/DC converter 12 whereby the microcomputer 21 ceases to provide the supply voltage of the output S21 to the control terminal of the DC/DC converter 12 in response to a DC voltage received from a battery 11 (see Abstract and Figure on Patent Abstract). *Nonaka* fails to provide multiple DC/DC converters as required by claim 16. Further, *Nonaka* fails to disclose that the microcomputer 21 is configured to control the DC/DC converter 12 to generate enough power to satisfy increased power level ratings for various loads based on an amount of current detected by the microcomputer 21. At best, the microcomputer 21 of *Nonaka* includes logic for simply ceasing to provide a supply voltage to the control terminal of the DC/DC converter 12 based on the DC voltage received from the battery 11 to prevent erroneous operation and unnecessary power consumption. *Nonaka* fails to disclose that the microcomputer 21 is capable of controlling the DC/DC converter 12 to provide sufficient power to meet increased power levels of any such loads in response to any amount of current that is detected by the microcomputer 21.

Since the proposed combination of *Pinas et al.*, *Maeda*, *Akerson*, *Flick* and *Nonaka* fails to disclose claim 16, it follows that claim 16 is not known in the art. For at least these reasons, claim 16 is patentable in light of the proposed combination of *Pinas et al.*, *Maeda*, *Akerson*, *Flick* and *Nonaka*. Claims 17-22 depending from claim 16 are patentable for the above stated reasons as well as their own limitations.

The proposed combination of *Pinas et al.*, *Maeda*, *Akerson* and *Flick* and the prior art of record fails to demonstrate that the limitations of claim 23 are known in the art in view of the remarks presented above in connection with claim 16. Further, claims 24 - 27 (depending from claim 23) are patentable for the above stated reasons as well as their own patentable limitations.

The proposed combination of *Pinas et al.*, *Maeda*, *Akerson* and *Flick* fails to demonstrate that the limitations of claim 28 are known in the art. Claim 28 recites, *inter alia*, "a controller operably coupled to each of the first, the second, and the third DC/DC converters and to each of the first, the second, and the third loads and configured to: detect the amount of

power that is to be consumed by each of the first, the second, and the third loads; determine which of the at least one of the first, the second, and the third DC/DC converters is generating the lowest amount of power; and selectively control the at least one of the first, the second, and the third DC/DC converters that is generating the lowest amount of power to cooperate with the at least one of the first, the second, and the third DC/DC converters to generate enough power to satisfy the at least one first, second, and third increased power level ratings in response to detecting that the amount of power that is to be consumed by the at least one of the first and the second loads is approaching the at least one of the first, the second, and the third increased power level ratings."

The Examiner agrees that "Pinas fails to explicitly teach detecting the current required by the loads" (see Office Action mailed December 14, 2007, pg. 4, § 4).

Maeda fails to cure the deficiencies of *Pinas et al.* *Maeda* fails to disclose the use of a controller as required by Claim 28. In particular, *Maeda* fails to disclose a controller that is configured to control the DC/DC converters 31c, 33c, and 35c to cooperate with each other to generate enough power to satisfy increased power levels associated with the normal or large capacity loads (see Figure 2).

Akerson also fails to cure the deficiencies of *Pinas et al.* and *Maeda*. For example, *Akerson* fails to disclose the use of a controller as required by claim 28. In particular, *Akerson* fails to disclose a controller that is configured to control the DC/DC converters 102a and 104a to cooperate with each to generate enough power to satisfy increased power levels associated with the load 420 (see Figure 7).

Flick fails to cure the deficiencies of *Pinas et al.*, *Maeda*, and *Akerson*. For example, *Flick* fails to disclose the presence of a controller as required by claim 28.

Applicants respectfully assert *Nonaka* (Japanese Patent No: JP08-111932) (as referenced in the Office Action in connection with claims 2, 9 and 11, see p. 4, ¶ 4) fails to disclose claim 28, which provides, *inter alia*, "a controller . . . configured to . . . selectively

control the first and the second DC/DC converters to cooperate with each other to generate enough power to satisfy at least one of the first increased power level rating of the first load and the second increased power level rating of the second load in response to detecting that the amount of power that is to be consumed by the at least one of the first and the second loads is approaching the at least one of the first and the second increased power level ratings."

At best, *Nonaka* provides for a microcomputer 21 that supplies an output S21 to a control terminal of a DC/DC converter 12 whereby the microcomputer 21 ceases to provide the supply voltage of the output S21 to the control terminal of the DC/DC converter 12 in response to a DC voltage received from a battery 11 (see Abstract and Figure on Patent Abstract). *Nonaka* fails to provide multiple DC/DC converters as required by claim 28. Further, *Nonaka* fails to disclose that the microcomputer 21 is configured to control the DC/DC converter 12 to generate enough power to satisfy increased power level ratings for various loads based on an amount of current detected by the microcomputer 21. At best, the microcomputer 21 of *Nonaka* includes logic for simply ceasing to provide a supply voltage to the control terminal of the DC/DC converter 12 based on the DC voltage received from the battery 11 to prevent erroneous operation and unnecessary power consumption. *Nonaka* fails to disclose that the microcomputer 21 is capable of controlling the DC/DC converter 12 to provide sufficient power to meet increased power levels of any such loads in response to any amount of current that is detected by the microcomputer 21.

Since the proposed combination of *Pinas et al.*, *Maeda*, *Akerson*, *Flick* and *Nonaka* fails to disclose claim 28, it follows that claim 28 is not known in the art. For at least these reasons, claim 28 is patentable in light of the proposed combination of *Pinas et al.*, *Maeda*, *Akerson*, *Flick* and *Nonaka* and the prior art of record.

Claims 2, 9 and 11 Stand Rejected Under 35 U.S.C. § 103(a) As Being Unpatentable Over Pines et al. U.S. Patent No. 6,507,506, In View Of Maeda U.S. Patent No. 6,340,848, In Further View of Akerson U.S. Patent No. 6,344,985, In View Of Flick U.S. Patent No. 6,756,885 And In Further View of Nonaka Japanese Patent No. JP08-111932

Applicants respectfully request the Examiner to withdraw the rejection in view of the cancellation of claims 2, 9 and 11.

Claims 5-6 And 13-14 Stand Rejected Under 35 U.S.C. § 103(a) As Being Unpatentable Over Pines et al. U.S. Patent No. 6,507,506, In View Of Maeda U.S. Patent No. 6,340,848, In Further View of Akerson U.S. Patent No. 6,344,985, In Further View Of Flick U.S. Patent No. 6,756,885 And In Further View of Kolbas et al. U.S. Patent No. 6,201,678

Applicants respectfully request the Examiner to withdraw the rejection in view of the cancellation of claims 5-6 and 13-14.

Conclusion

For the foregoing reasons, Applicants believe that the Office Action mailed December 14, 2007, has been fully responded to. Consequently, in view of the above amendments and remarks, Applicants respectfully submit that the application is in condition for allowance, for which allowance is respectfully requested.

The Petition fee of \$120.00 is being charged to Deposit Account No. 02-3978 via electronic authorization submitted concurrently herewith. The Commissioner is hereby authorized to charge any additional fees or credit any overpayments as a result of the filing of this paper to Deposit Account No. 02-3978.

If the Examiner believes a telephone interview would advance prosecution of the application in any manner, the Examiner is invited to contact Martin J. Sultana, representative of Applicants, at the Examiner's convenience at (248) 358-4400.

Respectfully submitted,
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